

## Title (en)

Lithographic apparatus and device manufacturing method

## Title (de)

Lithografische Vorrichtung und Verfahren zur Herstellung einer Vorrichtung

## Title (fr)

Appareil lithographique et procédé de fabrication d'un dispositif

## Publication

**EP 1826615 A2 20070829 (EN)**

## Application

**EP 07075136 A 20070215**

## Priority

US 35872506 A 20060222

## Abstract (en)

A lithographic apparatus includes a displacement measuring system to measure a position of a moveable object with respect to a reference frame of the lithographic apparatus, in at least three coplanar degrees of freedom (x,y,Rz) of an orthogonal x-y-z coordinate system centred in the center of the moveable object. The moveable object includes a support structure configured to support a patterning device or a substrate table (2) configured to support a substrate. The displacement measuring system includes at least three sensor heads (4,5,6,7), each sensor head being positioned with a measuring direction (54...57) substantially coplanar with the x-y plane of the coordinate system and each sensor head being furthermore positioned with the measuring direction substantially perpendicular to a connection line (10,11) connecting the sensor head with the center of the movable object and extending coplanar with the x-y plane.

## IPC 8 full level

**G03F 7/20** (2006.01)

## CPC (source: EP KR US)

**G03F 7/70725** (2013.01 - EP US); **G03F 7/70775** (2013.01 - EP KR US); **G03F 7/7085** (2013.01 - KR); **H01L 21/67259** (2013.01 - KR)

## Citation (applicant)

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- EP 1111472 A2 20010627 - ASM LITHOGRAPHY BV [NL]
- EP 1621933 A2 20060201 - ASML NETHERLANDS BV [NL]
- US 2005168714 A1 20050804 - RENKENS MICHAEL JOZEF M [NL], et al
- EP 1762897 A1 20070314 - ASML NETHERLANDS BV [NL]
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## Citation (examination)

JP H05129184 A 19930525 - CANON KK

## Cited by

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**EP 1826615 A2 20070829**; **EP 1826615 A3 20070912**; CN 101055425 A 20071017; CN 101055425 B 20121128; JP 2007266581 A 20071011; JP 4486976 B2 20100623; KR 100855075 B1 20080829; KR 20070085158 A 20070827; SG 135129 A1 20070928; TW 200745770 A 20071216; US 2007195296 A1 20070823; US 7602489 B2 20091013

## DOCDB simple family (application)

**EP 07075136 A 20070215**; CN 200710085250 A 20070215; JP 2007027473 A 20070207; KR 20070017458 A 20070221; SG 2007011828 A 20070215; TW 96104922 A 20070209; US 35872506 A 20060222